

## **TRI-LEAFLET MECHANICAL HEART VALVE**

### **ABSTRACT OF THE DISCLOSURE**

A tri-leaflet heart valve includes an annular valve base with an inner surface forming an orifice through which blood flows from the upstream side to the downstream side. Three protruding hinges, each with concave sockets on opposite sides, are formed on the inner surface. Each hinge has a downstream face and an upstream face connected by a ridge. Three leaflets are respectively arranged between adjacent hinges. Each leaflet has round pivots on both sides that rest inside the concave sockets, allowing the leaflets to freely rotate in the annular valve base. When the leaflets are subject to a positive pressure from the blood flow, the leaflets are pushed open and allow a central flow. When the leaflets are subject to a negative pressure, the leaflets are closed to occlude the blood flow.